

Indoor/Outdoor INSTEON Motion Sensor

Model #2420M

1. INTRODUCTION

The INSTEON Motion Sensor is an indoor/outdoor motion sensor that will turn INSTEON controlled lights On and Off in response to movement around your home. The sensor also contains a photocell, allowing you to configure the unit to only turn your lights on at night. Pair the Motion Sensor up with INSTEON software for almost limitless automation possibilities.

In this package you will find the Motion Sensor, a 9V battery, a swivel mount, and 2 screws.



2. OPERATION

WHEN MOTION IS SENSED

1. When motion is sensed the Motion Sensor will send an "On" command to up to 32 linked INSTEON responders and flash it's LED (unless it is daytime and unit is in night-only mode)
2. Sensor will begin a 1 minute countdown
3. Whenever motion is sensed during countdown, the countdown will be reset to 1 minute to easily allow you to create "occupied" versus unoccupied modes for your home.
4. When countdown expires the Sensor will send an "Off" command to all linked responders (unless it is in on-only mode)

APPLICATIONS

1. Turn driveway or front step lights on when visitors approach
2. Have your fountain always on when you are around (and off when you are away)
3. Save money by having HVAC and lighting automatically go into energy savings mode when no one is around

3. SETUP

INSERT BATTERY

Use a small Philips head screwdriver to remove screw from battery compartment on back of unit and remove cover. Attach the included 9 volt battery. Do not replace compartment cover until instructed to do so later in this manual. Wait 5 minutes for the circuit to stabilize. Then, to confirm unit is functioning, tap the set button a couple of times while watching the front of the unit. Each time you tap the Set button, a red LED behind the sensor lens will flash. Don't worry if the LED flashes when you are not tapping the set button as it is simply indicating that motion is being detected.



ACCESS POINTS

Motion Sensor requires at least one INSTEON Access Point (#2443) product installed in your home. To confirm the Motion Sensor is within RF range of your Access Point, have a friend watch the LED on the side of your Access Point while you tap the set button on the Sensor (while holding it where you plan to install it). Access Point's LED will flash a couple of times every time you tap the set button if it is within range.

4. SETUP INSTEON DEVICE CONTROL

LINKING TO INSTEON RESPONDERS

1. Press & hold the Set button on Motion Sensor for 5 seconds (until red LED behind sensor lens begins steady blinking, you now have 4 minutes to complete step 2)
2. Press & hold set button¹ for 5 seconds on the INSTEON responder (e.g. SwitchLinc) you would like the Motion Sensor to control (an LED may blink and the connected load/bulb may flash)
3. Motion Sensor's LED will stop blinking (if not try step 2 again)
4. Test by tapping the Motion Sensor's set button. Each tap should alternatively turn the device you linked (e.g. SwitchLinc) on and off. (Motion Sensor's LED will flash each time Set button is tapped)
5. Repeat this procedure for up to 32 responders you wish the Motion Sensor to control.

¹ For Multi-button responders (e.g. KeypadLinc) tap the button you wish to control before pressing & holding its set button.

5. MOUNT SENSOR

MOUNTING (See Locating Tips for Help)

1. Use the two small screws (included) to secure the swivel mounting bracket at your desired location.



2. Slide Motion Sensor onto the swivel mounting bracket (sliding the unit to the right) until you hear a click.



3. Aim Motion Sensor towards the area in which you wish to detect motion (detection area).
4. Test by walking through the area, linked responders should turn on when motion is sensed, and off 1 minute after last motion sensed.

6. ADJUST DETECTION AREA

AIMING & SENSITIVITY

1. Tap Motion Sensor's set button until the linked responder(s) turn off
2. Within 10 seconds walk well out of detection area
3. Wait 20 seconds
4. Walk into and near your detection area. Your linked responders will turn on (LED will flash upon initial motion, then once every 8 seconds during motion)
 - a. If LED does not flash while you are moving within the desired detection area, re-aim Sensor (usually means pointing the Sensor "up")
 - b. If LED flashes while you're moving outside detection area
 - i. Aim Sensor to decrease range (usually means aiming the Sensor "down")
 - ii. If aiming sensor does not generate desired results place jumper 1 on both pins (see section (Choose Modes)

7. SETUP MODES (Optional)

SET JUMPERS

Jumpers are small plastic "boxes" that act as a switch. When mounted on 2 pins, the switch is "on". When mounted on 1 pin (or missing), the switch is "off".

Jumper 1 – Sensitivity

To reduce Sensor's detection range (by approximately 33%), carefully remove the left-most jumper, jumper 1 (from the single pin it is mounted on) using a pair of needle-nose pliers and re-mount it on both pins.

Tap the set button once, wait 10 seconds, and activate motion to establish the new setting.

Jumper 2 – Disable LED

If you wish to disable the LED (will still operate during setup), mount jumper 2 on both pins. Tap the set button once, wait 10 seconds, and activate motion to establish the new setting.

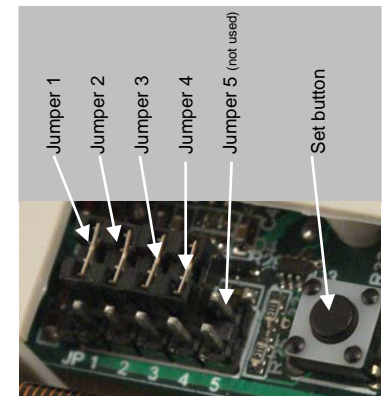
Jumper 3 – Night-Only Mode

If you wish to have the Sensor operate only when dark, mount jumper 3 on both pins. Tap the set button once, wait 10 seconds, and activate motion to establish the new setting. Note: It takes 3.5 minutes to detect the difference between day and night.

Jumper 4 – On-Only Mode

If you wish to disable the automatic countdown "Off", mount jumper 4 on both pins and the Motion Sensor will only send "On" Tap the set button once, wait 10 seconds, and activate motion to establish the new setting.

Jumper 5 – Not Used

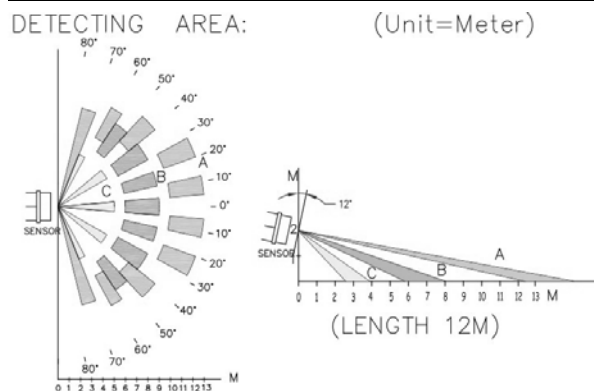


8. REMOVE CONTROL OF INSTEON

UNLINKING FROM INSTEON RESPONDERS

1. Press & hold the Set button on Sensor for 5 seconds (until red LED behind sensor lens begins blinking) and release
2. Press & hold the Set button on Sensor for an additional 5 seconds (until the LED changes its blink pattern – it will now be on longer than off)
3. Press & hold set button on INSTEON responder you would like to unlink (until its LED blinks)
4. Motion Sensor's LED will stop blinking (if not try step 3 again)
5. Test by tapping the Sensor's set button. Taps should no longer control the unlinked device.

9. DETECTING AREA



10. LOCATING TIPS

BEST LOCATIONS

Select a detector location that will provide the coverage required while keeping in mind the following potential problems:

1. **Reflective Surfaces** - Do not aim the detector at reflective surfaces such as mirrors or windows as this may distort the coverage pattern or reflect sunlight directly onto the detector.
2. **Air Flow** - Avoid locations that are subject to direct high air flow such as near an air duct outlet.
3. **Moisture** - Do not locate the detector near sources of steam or oil.
4. **Sunlight** - Do not aim the detector such that it will receive direct or reflected (mirror) sunlight.
5. **Obstruction** - Do not limit the coverage by large objects within the detection area such as plants or filing cabinets.
6. **Pet Rejection** - Do not aim the detector at a stairway which a pet has access to and do not place furniture or objects higher than 3 ft / 0.9 m, which a pet can climb onto (e.g. a cat on a couch), closer than 6 ft / 1.8 m to the detector.
7. **Fireplace** - Do not locate the detector near a fireplace due to the light and heat.
8. **Snow or Ice** - Snow or ice on the Fresnel lens may interfere with Motion Sensor's ability to detect motion.
9. **Dirt** - Dirt on the Fresnel lens may interfere with Motion Sensor's ability to detect motion.

11. TROUBLESHOOTING

Symptom	Resolution
Sensor won't link to responders	Move a dual-band INSTEON device (e.g. Access Point) closer to the Motion Sensor
Sensor won't control linked responders	a) Make sure LED flashes to confirm it has power and is sensing motion b) Sensor is in night-only mode (and it is "day") c) Move a dual-band INSTEON device (e.g. Access Point) closer to the Motion Sensor d) Sensor is in its 1 minute countdown
LED flashing rapidly after motion is detected	Sensor did not receive an acknowledgement from one or more linked devices. If this occurs repeatedly you may need to move a dual-band INSTEON device closer to the Sensor or you may need to unlink a device which is no longer in use in your home. If the INSTEON responders are no longer available, you may either use a software application or perform a factory reset to remove the unwanted links.
LED not flashing upon motion	a) You may need to wait up to 8 seconds to see the flash b) Battery may need to be replaced
Not sensing motion	a) Light detected and unit is in night-only mode b) Motion Sensor Aimed too low c) Temperature too high, or low (sensor needs to be able to distinguish between what is being sensed and its surroundings) d) See Locating Tips section
LED is double flashing upon motion	Low battery warning, replace with fresh battery

12. FACTORY RESET

RETURN UNIT TO FACTORY SETTINGS

1. If possible, unlink from all responders before proceeding
2. Remove battery
3. Wait 15 seconds
4. While pressing & holding the Set button, re-attach the battery and continue holding the Set button
5. After around 2 seconds, the LED will turn on and stay on for about 3 seconds. Once the LED turns off, release the Set button

13. FCC

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

WARNING

Changes or modifications to this unit voids the user's authority to operate this product and the manufacturer's warranty

14. CUSTOMER SERVICE

TECHNICAL SUPPORT

Skylink has contracted with Smarthome for support of the INSTEON Motion Sensor. Customers should contact Smarthome for technical support.

1. www.smarthome.com (product page, help desk, wiki, live chat)
2. email at support@smarthome.com
3. 1-800-SMARTHOME (800-762-7846)